

to accomplish the delivery. With one hand I used traction, so as to make the pessary press upon and distend the stricture (which resembled exactly the rigid os uteri, when it is partly dilated in parturition), and then used a finger of the other hand to dilate the stricture. After little delay, I succeeded in bringing it through. After omitting the use of the pessary for a little time, the prolapsus returned, the instrument was introduced again, and the patient still wears it. At present, either the stricture has disappeared, or the pessary lies below it.

The wood-cut probably sufficiently explains itself. The clam is accurately modelled to a globular pessary of the size of a billiard ball; but it will be equally efficient, when pessaries are of other dimensions. Perhaps it may be a fault in the specimen from which the drawing was made, that the clam constitutes too large a segment of a circle, thereby lessening, in some cases, the facility of its application. It might be made to constitute a less portion of a circle, and yet be entirely efficient. When the clam is applied, a finger, acting as an antagonist, may be applied to the pessary to prevent it slipping off.

Should such a case as the foregoing occur to any reader of this page, I would commend to him a trial of this simple little instrument. It may obviate the necessity of a bistoury to relieve the stricture; and, in other cases, it may render unnecessary that process, alike disgusting to the patient and the operator, of acting on the pessary through the rectum.

April 20, 1850.

[We have employed the vectis of Dr. Bond in one case, and with the most satisfactory result. About a year ago, we were sent for by a lady who was suffering great uneasiness from a globular, wooden pessary, which had been introduced a few days previously by a surgeon in Boston. Finding every effort to remove the pessary by the usual manœuvres ineffectual, we obtained one of Dr. Bond's vectis, by the aid of which we extracted the pessary without any difficulty.—EDITOR.]

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ART. VII.—*Cyanosis, produced by Transposition of the Orifices of the Aorta and Pulmonary Artery.* Reported by CARTER P. JOHNSON, M.D., Prof. Anat. and Physiol. Med. Dep. Hampden Sidney College, Richmond, Va. (With two figures.)

On the 17th of May, I was requested by Dr. G. G. Miner, of this city, to aid him in making a post-mortem examination of a male mulatto infant, aged precisely two months, which had suffered since its birth from some disorder of the circulation and symptoms of cyanosis, and which had died the previous evening. I learned from the Doctor that the cyanosis was *permanent*, being

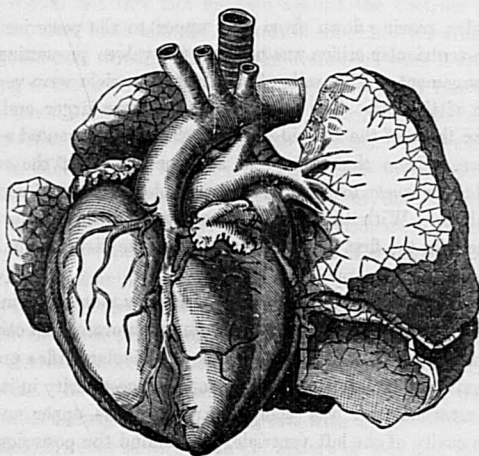
always present to a greater or less extent, though considerably increased by any unusual exertion on the part of the child.

On proceeding to the autopsy, the body presented externally nothing worthy of special notice. Though rather under size, it appeared to have been tolerably well nourished, and to differ but little in plumpness and rotundity from the bodies of other children of the same age.

Upon opening the thorax, the cavity of each pleura was found to contain from two to three ounces of serum; the surfaces of the pleura were healthy. The lungs were but imperfectly inflated, though sufficiently so to float upon water. Instead of presenting the very white colour of the child, they presented, except in a few spots where a larger amount of air had obtained access, the dark purple colour of a highly congested or apoplectic lung.

The pericardium was healthy, containing no more fluid than usual. The heart presented the usual form, size, and direction; but, upon examining the upper portion from which the aorta and pulmonary artery emerge, an unusual relation of their vessels was observed. Instead of finding the pulmonary artery lying in front of and concealing the orifice to the aorta, the two vessels lay side by side from their origin to the division of the pulmonary artery, the aorta lying on the *right* and somewhat in front, the pulmonary artery on the *left*, a little behind. (See Figure 1.)

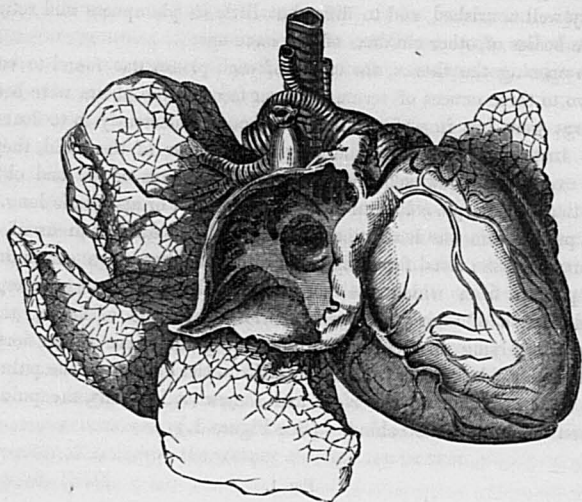
Fig. 1.



On examining the interior of the cavities, beginning with the right auricle, the vena cavæ and coronariæ were found empty as usual. The *foramen ovale* was *patulous* by an orifice oval in shape, the vertical diameter of which measured about four and a half lines, the transverse diameter about two and

a half lines (see Fig. 2). The *musculi pectinati* were developed to a much greater extent than usual, large fleshy pillars, resembling the *columnæ carneæ*

Fig. 2.



of the ventricles, passing down from the upper to the posterior wall. The right auriculo-ventricular orifice was natural, the valves presenting the usual tricuspid arrangement. The walls of the right ventricle were very nearly as thick as those of the left. The *columnæ carneæ* were larger and more fully developed than those of the left side, though the latter presented a much more red appearance. From the upper and anterior portion of the cavity of the right ventricle the *aorta* took its origin, provided, as usual, with its three semilunar valves. With the exception of its orifice, and the consequent change produced in the first portion of its course, the distribution of the *aorta* was normal.

The left auricle received, as usual, the pulmonary veins, and in its interior presented on the septum the opening of the foramen ovale. In other respects, its anatomy was normal. The left auriculo-ventricular orifice presented the usual mitral valve. The left ventricle presented no peculiarity in its structure; the septum ventriculorum was complete. From the upper and posterior portion of the cavity of the left ventricle, just behind the posterior fold of the valve, the *pulmonary artery* took its origin by a free and patulous orifice. From its origin it proceeded upwards and to the right for about an inch, when it divided into three branches, the right and left having the usual course and distribution of the pulmonary arteries, the middle branch (the previous ductus arteriosus) piercing the concavity of the arch of the *aorta*. The pulmonary branches were pervious, and not materially smaller than usual.

*Remarks.*—From such an arrangement of the heart and blood-vessels, it is easy to explain the symptoms of imperfect arterialization of the blood which this case presented. The right ventricle received, as usual, only venous blood, and propelled this blood unchanged into the aorta, and thence through the whole systemic circulation. But, had the various organs of the body received their supply of blood only through this source, they would have ceased to perform their functions after a few revolutions of the current of the circulation, and life would have become extinct within a few minutes after birth. A source of arterialized blood, however, was afforded through the *ductus arteriosus*, which received the blood from the left ventricle through the pulmonary artery. As in the fœtus, therefore, the venous organs of the body must have been supplied with mixed arterial and venous blood.

The pulmonary artery communicating with the left ventricle which received the blood from the left auricle, which in its turn received arterial blood from the pulmonary veins, how was the venous blood of the *right* side carried into the lungs, and how was hæmatisis accomplished at all? This could only have been effected by the passage of a portion of the venous blood in the right auricle, through the open foramen ovale, into the left auricle, from whence, passing into the left ventricle, it would be propelled by the latter, in common with the arterial blood, into the pulmonary artery; a portion of this mixed blood finding its way through the divisions of the pulmonary artery into the lungs, the other portion passing through the ductus arteriosus into the aorta. Would not this fact militate against the doctrine advocated of late years, that, after birth and the full establishment of the true circulation, no current would pass through the foramen ovale even were it open?

In referring to the various works on anatomy, within my reach at present, among them Quain's magnificent work on the Arteries, and the article on the Heart, *Cyclop. Anat. and Physiol.*, I find no reference to any case similar to this, except in Meckel, who, in vol. ii. p. 220, refers to transposition of the great vessel as one of the anomalies that may occur, and, in support of his assertion, refers in a note to one case reported by Tiedemann in the *Zeitschrift für Physiologie*. Mr. Gintrac, in his "*Observations et Recherches sur le Cyanose*," has collected four similar cases, and Dr. Moreton Stillé, in his able article on Cyanosis (*American Journal of the Medical Sciences*, July, 1844), apparently on the authenticity of Gintrac, lays down transposition of the aorta and pulmonary artery as one of the "lesions, alterations, or defects" causing cyanosis. Not having access to Gintrac's work, I am unable to say whether his cases correspond in other respects with this.

In conclusion, I would remark that the history of this case would seem to confirm Dr. Stillé's general conclusion that "no *one* lesion is entitled to be considered as the anatomical character of cyanosis; but that it depends simply upon any cause which, acting at the centre of the circulation, will produce a stasis of venous blood in the capillary system." In this case, that stasis was produced, not by any obstruction or contraction of the pulmonary

arteries, but by the difficulty presented to the accomplishment of hæmatisis in consequence of the small amount of venous blood which could find its way to the lungs. The right auriculo-ventricular orifice, and the opening of the aorta into the right ventricle, being both free, and opening in the direct current of the circulation, only a small portion of the blood in the right side of the heart would pass through the comparatively small foramen ovale, and of that only about two-thirds would pass to the lungs; the remaining third passing through the ductus arteriosus into the aorta.

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ART. VIII.—*False Encephaloid. Fatty Tumour of the Liver, feigning Encephaloid—Perforation of the Diaphragm—Growth in Cavity of the Chest, and Expectoration therefrom.* By R. S. HOLMES, M. D., Professor of Physiology, St. Louis Medical College.

THE following very interesting case occurred within the last few weeks in the practice of Drs. Chase and Johnson (George) of this city.

S. T., a very healthy man, of temperate habits, a native of Ireland, of a strong, though thin frame of body, inclined to a sanguine temperament, aged thirty-eight years, complained, some six months since (the first time he had ever been sick), of chills or rigors, which he called the "dumb ague." They did not give him much uneasiness, however, and he soon recovered. About six weeks ago, he experienced considerable pain about the lower part of the right lung. This was supposed to be a pleuritic inflammation; and, although no certain diagnosis could be arrived at, he was treated accordingly. The symptoms were not alleviated, however. There was considerable pain; a dry cough, for the first time, without any expectoration; loss of appetite; rapid emaciation of body; frequency of pulse. No disease of the lung by auscultation or percussion could be found, save that, in the right hypochondriac region, for the space of some two or three inches in diameter, a dull, heavy sound was elicited, and no pectoral murmur was heard on auscultation.

During the second week, the patient expectorated, in a severe paroxysm of coughing, a mass of substance about one inch wide, two and a half inches long, and half an inch thick, of the shape of an almond. The smallest end of this was smooth and rounded, as if formed in a mould; the other rough, as though broken from a larger mass. It was of a whitish colour, but had a distinct yellow tint; a thin membrane encysting it apparently, save at the end, where it seemed as if torn from its connections. The mass excited a good deal of curiosity from its striking resemblance, in consistence and appearance, to encephaloid; as also from its size, as it was almost impossible to believe that it could be expelled, as a mass, from the lungs by the trachea.